

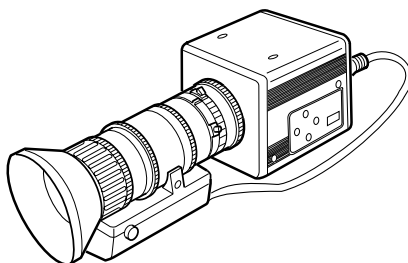


COLOR VIDEO CAMERA

KY-F550

INSTRUCTIONS

3-CCD



*Illustration with optional lens attachment.

This instruction manual is made from 100% recycled paper.

Thank you for purchasing this JVC product. Before operating this unit, please read the instructions carefully to ensure the best possible performance.

For Customer Use:

Enter below the Serial No. which is located on the bottom of cabinet. Retain this information for future reference.

Model No. KY-F550U

Serial No. _____

Thank you for purchasing the JVC KY-F550 Color Video Camera.

These instructions are for KY-F550U.

SAFETY PRECAUTIONS

FOR USA AND CANADA



This symbol indicates type B equipment classified in accordance with IEC Publication. 60601-1 Safety of medical electrical equipment.

The use of ACCESSORY equipment not complying with the equivalent safety requirements of this equipment may lead to a reduced level of safety of the resulting system. Consideration relating to the choice shall include:

- use of the accessory in the PATIENT VICINITY
- evidence that the safety certification of the ACCESSORY has been performed in accordance to the appropriate IEC 60601-1 and/or IEC 60601-1 harmonized national standard.



MEDICAL ELECTRICAL EQUIPMENT

WITH RESPECT TO ELECTRICAL SHOCK, FIRE AND
MECHANICAL HAZARDS ONLY
IN ACCORDANCE WITH
UL 60601-1, CAN/CSA C22.2 NO.601.1
56PA

Risk Class	: I
Type	: No Applied Parts
Moisture Protection	: Ordinary
AP/APG Category	: No
Operation Mode	: Intermit

AA-P700MD AC Adaptor is designed to use in Hospital or other Medical usage.

AA-P700 AC Adaptor is designed to use for non Medical usage.

Please use for appropriate AC Adaptor for your system.

(FOR USA AND CANADA) Note for Accessory options.

AA-P700MDU AC Adaptor is designed to use in Hospital or other Medical usage.

AA-P700U AC Adaptor is designed to use for non Medical usage.
Please use for appropriate AC Adaptor for your system.

JVC Sales Office

JVC PROFESSIONAL PRODUCTS COMPANY
1700 VALLEY ROAD, WAYNE, NJ 07470, U.S.A.
TEL : (973)315-5000

JVC CANADA INC.
21 FINCHDENE SQUARE, SCARBOROUGH,
ONTARIO M1X 1A7, CANADA
TEL : (416)293-1311

IMPORTANT SAFEGUARDS

1. Read all of these instructions.
2. Save these instructions for later use.
3. All warnings on the product and in the operating instructions should be adhered to.
4. Unplug this appliance system from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.
5. Do not use attachments not recommended by the appliance manufacturer as they may cause hazards.
6. Do not use this appliance near water – for example, near a bathtub, washbowl, kitchen sink, or laundry tub, in a wet basement, or near a swimming pool, etc.
7. Do not place this appliance on an unstable cart, stand, or table. The appliance may fall, causing serious injury to a child or adult, and serious damage to the appliance. Use only with a cart or stand recommended by the manufacturer, or sold with the appliance.

Wall or shelf mounting should follow the manufacturer's instructions, and should use a mounting kit approved by the manufacturer.

An appliance and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn.

PORTABLE CART WARNING
(symbol provided by RETAC)



S3125A

8. Slots and openings in the cabinet and the back or bottom are provided for ventilation, and to insure reliable operation of the appliance and to protect it from overheating, these openings must not be blocked or covered. The openings should never be blocked by placing the appliance on a bed, sofa, rug, or other similar surface. This appliance should never be placed near or over a radiator or heat register. This appliance should not be placed in a built-in installation such as a bookcase unless proper ventilation is provided.
9. This appliance should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supplied to your home, consult your dealer or local power company. For appliance designed to operate from battery power, refer to the operating instructions.
10. This appliance system is equipped with a 3-wire grounding type plug (a plug having a third (grounding) pin). This plug will only fit into a grounding-type power outlet. This is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the grounding plug.
11. For added protection for this product during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the antenna or cable system. This will prevent damage to the product due to lightning and power-line surges.
12. Do not allow anything to rest on the power cord. Do not locate this appliance where the cord will be abused by persons walking on it.
13. Follow all warnings and instructions marked on the appliance.
14. Do not overload wall outlets and extension cords as this can result in fire or electric shock.
15. Never push objects of any kind into this appliance through cabinet slots as they may touch dangerous voltage points or short out parts that could result in a fire or electric shock. Never spill liquid of any kind on the appliance.
16. Do not attempt to service this appliance yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.
17. Unplug this appliance from the wall outlet and refer servicing to qualified service personnel under the following conditions:
 - a. When the power cord or plug is damaged or frayed.
 - b. If liquid has been spilled into the appliance.
 - c. If the appliance has been exposed to rain or water.
 - d. If the appliance does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions as improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the appliance to normal operation.
 - e. If the appliance has been dropped or the cabinet has been damaged.
 - f. When the appliance exhibits a distinct change in performance – this indicates a need for service.
18. When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer that have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock, or other hazards.
19. Upon completion of any service or repairs to this appliance, ask the service technician to perform routine safety checks to determine that the appliance is in safe operating condition.

SAFETY PRECAUTIONS



CAUTION

RISK OF ELECTRIC SHOCK
DO NOT OPEN



CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK,
DO NOT REMOVE COVER (OR BACK).
NO USER-SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL



ATTENTION

RISQUE D'ELECTROCUTION
NE PAS OUVRIR



ATTENTION: POUR EVITER TOUT RISQUE D'ELECTROCUTION
NE PAS OUVRIR LE BOITER.
AUCUNE PIECE INTERIEURE N'EST
A REGLER PAR L'UTILISATEUR.
SE REFERER A UN AGENT QUALIFIE EN CAS DE PROBLEME.



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

WARNING:
TO REDUCE THE RISK OF FIRE OR
ELECTRIC SHOCK, DO NOT EXPOSE THIS
APPLIANCE TO RAIN OR MOISTURE.

This unit should be used with 12 V DC only.

CAUTION:
To prevent electric shocks and fire hazards, DO
NOT use any other power source.

NOTE:

The rating plate (serial number plate) is on the bottom of the unit.

INFORMATION

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

CAUTION

CHANGES OR MODIFICATIONS NOT APPROVED BY
JVC COULD VOID USER'S AUTHORITY TO OPERATE
THE EQUIPMENT.

THIS DEVICE COMPLIES WITH PART 15 OF THE FCC
RULES. OPERATION IS SUBJECT TO THE FOLLOW-
ING TWO CONDITIONS: (1) THIS DEVICE MAY NOT
CAUSE HARMFUL INTERFERENCE, AND (2) THIS
DEVICE MUST ACCEPT ANY INTERFERENCE
RECEIVED, INCLUDING INTERFERENCE THAT MAY
CAUSE UNDESIRABLE OPERATION.



Le symbole de l'éclair à l'intérieur d'un triangle équi-
lateral est destiné à alerter l'utilisateur sur la présence
d'une "tension dangereuse" non isolée dans le boîtier
du produit. Cette tension est suffisante pour provoquer
l'électrocution de personnes.



Le point d'exclamation à l'intérieur d'un triangle équi-
lateral est destiné à alerter l'utilisateur sur la présence
d'opérations d'entretien importantes au sujet desquel-
les des renseignements se trouvent dans le manuel
d'instructions.

*Ces symboles ne sont utilisés qu'aux Etats-Unis.

AVERTISSEMENT:
POUR EVITER LES RISQUES D'INCENDIE
OU D'ELECTROCUTION, NE PAS EXPO-
SER L'APPAREIL A L'HUMIDITE OU A LA
PLUIE.

Cet appareil ne doit être utilisé sur 12 V en
courant continu.

ATTENTION:
Afin d'éviter tout risque d'incendie ou
d'électrocution, ne pas utiliser d'autres sources
d'alimentation électrique.

REMARQUE:

La plaque d'identification (numéro de série) se
trouve sur la partie inférieure de l'appareil.

INFORMATION (FOR CANADA) RENSEIGNEMENT (POUR CANADA)

This Class B digital apparatus complies with
Canadian ICES-003.

Cet appareil numérique de la Class B est
conforme à la norme NMB-003 du Canada.

Contents

1. Getting Started

Features	6
Points to Note During Use	7
Part Names and Functions	8
Description of Terminals	12

2. Preparation Before Shooting

Connecting Through Digital Output	14
Connecting Through Analog Output	16
Mounting the Lens	17
Connecting the Power Supply	18
Mounting the Camera	19
Precautions to Prevent Camera From Falling	20

3. Setting and Adjustment During Shooting

External Monitor Adjustment	21
White Balance Adjustment	22
White Shading Adjustment	24

4. Various Modes of Shooting

Shooting the Computer Monitor	26
Output of Negative Image	27
White Spot Correction	28


5. Setting Via the Menu Screen

Flow of Menu Screens	30
Setting Procedures	32
“EXPOSURE” Screen	33
“ADVANCED EXPOSURE” Screen	35
“WHITE BALANCE” Screen	36
“PROCESS (1/2)” Screen	38
“PROCESS (2/2)” Screen	40
“SYSTEM” Screen	41
“MATRIX ADJUST” Screen	42
“CAPTURE” Screen	43
“FILE MANAGE” Screen	44

6. Others

Connecting the Remote Control Unit	46
Connecting the IEEE 1394 Cable	48
Connecting the analog output (D-SUB) Cable	48
Technical Information	49
Specifications	50

Notations and Symbols Used in This Manual

Caution	Precautions during operation are stated.
Note	Restrictions of functions and specifications are stated for reference purposes.
	Indicates the page and item to refer to.

※ All product names in this manual are trademarks or registered trademarks of their respective companies.
Marks such as ™, ® and © are not used in this manual.

1. Getting Started

Features

- High quality images can be obtained through high sensitivity of 2000 lx (F11) and high resolution of horizontal resolution at 800 lines via the newly developed 12-bit DSP.
- Miniature and Lightweight Camera that Employs C Mount
Employment of C mount and 1/3-inch color separation optics, and compact design through high-density mounting of the newly developed IC.
- Equipped with D-SUB terminal
Multiple types of output signals which include RGB, Y/C, composite video and composite sync signal enable this unit to be connected directly to various types of device.
- Equipped with DV Terminal
Digital video signals can be sent to IEEE 1394 compliant devices.
- SMPTE-compliant Built-in Color Bars Generator
Color monitor can be adjusted with ease with the use of SMPTE color bars.
- Variable Scan Shutter
Eliminates flicker when shooting screen pictures other than NTSC, such as computer screens.
- Slow shutter
Accumulate up to 240 frames of image (approximately 8 seconds). Boosts the brightness of images during shooting for objects with insufficient illumination and little motion.
- Equipped with White Shading Function
Corrects color shading triggered by optical characteristics.
- Black Stretch/Black Compress Feature
Stretches or compresses the gain of the dark section in an image to adjust the tone of that section.
- Negative
Used for special purposes such as shooting using films.
- AE (Automatic Exposure)
6 selectable modes in the AE area that are useful when there is a difference in brightness between the object and its surroundings. In addition, exposure settings can also be performed according to shooting conditions via selection of AE level adjustment or photometry detection.
- Random Trigger Correction Feature
Fast moving objects can be shot with triggering input timing.
- Freeze Correction Feature
Still images (frozen images) of the camera can be captured with triggering input timing.
- Built-in White Spot Correction Feature
- Equipped with Remote Terminal
Supports remote control via the remote control unit (sold separately).

Points to Note During Use

- For important shootings, perform trials in advance to ensure that they are properly recorded.
- We will not compensate for contents lost due to the malfunction of this unit.

■ Characteristic CCD Phenomena

- **Smear and Blooming**

When shooting a bright light source, the CCD may induce white streaks (smear) in the vertical direction of the light source. When the light source is extremely bright, light of the surroundings may expand (blooming).

- **Aliasing**

Note that a jagged effect may occur when shooting striped patterns or lines.

- **White spot**

Operating this unit under a high temperature may give rise to white spots in the image. Ensure to use this unit within the specified range (-5°C to 40°C). White spots may also appear when set to slow shutter.

This unit comes with the white spot correction feature that helps to reduce this phenomenon.

📖 Page 28

■ Precautions During Handling

- **Strong Electromagnetic Waves or Magnetism**

When placed near radios or TV transmitters, or transformers and monitors that emit strong magnetism, noise or color change may occur in the image. Ensure that this unit is kept away from the above during use.

- **Compatible Lens 📖 Page 17 'Mounting the Lens'**

Lens mount of this unit makes use of C mount and there are restrictions on the type of lens to be used. Pay attention to their performance, dimensions, length of the screw portion when lenses other than those specified are used.

This unit is not equipped with back focus adjustment function. If zoom lens is to be used, please use only lens which are equipped with back focus function.

- **Cleaning the Body of this Unit (Turn off the power before cleaning.)**

Wipe using a soft cloth.

Do not wipe with thinner or benzene. These may corrode or tarnish the surface.

When it is extremely dirty, wipe using a neutral detergent diluted with water, follow by wiping with a dry cloth.

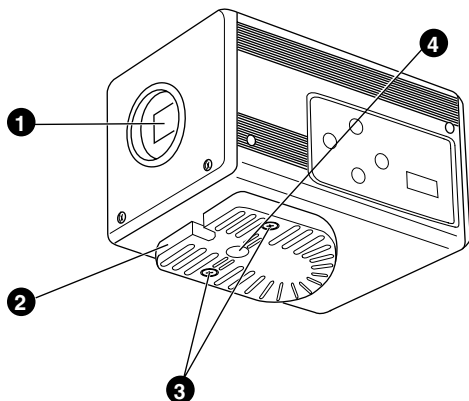
- **When not in use, turn off the power of the system to reduce power consumption.**

- **Do not mount unit at locations that emit radiation, X-rays or corrosive gases.**

1. Getting Started (continued)

Part Names and Functions

Front / Bottom



① Lens Mount

For mounting lens. Suitable for C mount lens meant for 3 CCDs.

☞ Page 17 'Mounting the Lens'

② Camera Mounting Bracket

Supplied together with this unit. Mount it to the top or bottom surface according to the conditions of use. Mount with the fastening screws for the camera mounting bracket ③.

☞ Page 19 'Mounting the Camera'

③ Fastening Screws for Camera Mounting Bracket

Supplied together with this unit.
(M2.6 x 6 mm, 2 pcs)

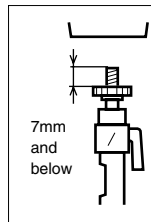
Caution

Make sure to use screws that are supplied with this unit. Use of screws that are 6 mm or longer in length may give rise to malfunction of the unit.

④ Camera Mounting Screw Holes (1/4-20UNC)

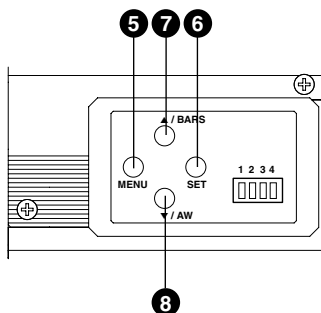
Use when mounting this unit to fixer or swivel bases.

(Use screws that are 7 mm or shorter in length.)



Part Names and Functions (continued)

Side



5 [MENU] Menu Button

Press this button for 1-2 seconds. Menu screen will be output from the various output terminals. Press the button for 1-2 seconds again to clear the menu screen.

☞ Page 32 'Setting Procedures'

6 [SET] Set Button

When the menu screen is displayed, use it to select a submenu or to confirm a selected item or set value.

☞ Page 32 'Setting Procedures'

7 [▲/BARS] Up/Color Bars Button

8 [▼/AW] Down/Auto White button

■ When menu screen is displayed

Press these buttons to move between selection items on the menu screen.

Use the [▲] button to move upwards.

Use the [▼] button to move downwards.

Used for altering the set values when an item is being selected.

■ When the menu screen is off

- Press the [AW] button to adjust the white balance.

☞ Page 22 'White Balance Adjustment'

- Press the [AW] button for 1-2 seconds to adjust the white shading.

☞ Page 24 'White Shading Adjustment'

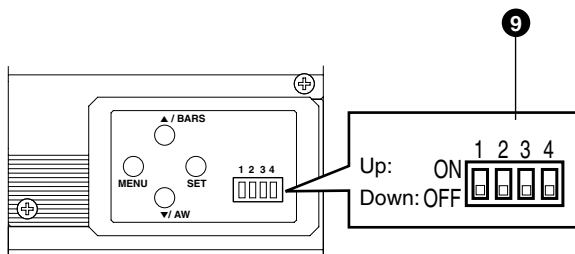
- Press the [BARS] button to switch between the color bars output and camera image output.

Use this button when adjusting the monitor or when recording color bars signal.

☞ Page 21 'External Monitor Adjustment'

1. Getting Started (continued)

Part Names and Functions (continued)



9 Function Setting Switch

Use for setting the functions of this unit.

Select the switches when the unit is at power off condition.

- **Switch 1 <DV OUTPUT>**

[ON] : Compressed DV signal (IEEE1394) of the camera images will be output.

[OFF] : DV signal will not be output.

Note

If [ON] is selected, the analog output will exhibit the same level of horizontal resolution (about 540 lines) as the DV output.

- **Switch 2 <DSUB OUTPUT>**

[ON] : Y/C signal will be output.

[OFF] : RGB signal will be output.

- **Switch 3 <SYNC ON GREEN>**

[ON] : Sync signal will be superimposed onto the Green (G) channel of the video signal output to the [RGB, Y/C, SYNC OUT] terminal ⑩.

[OFF] : Sync signal will not be superimposed.

- **Switch 4 <CONTROL MODE>**

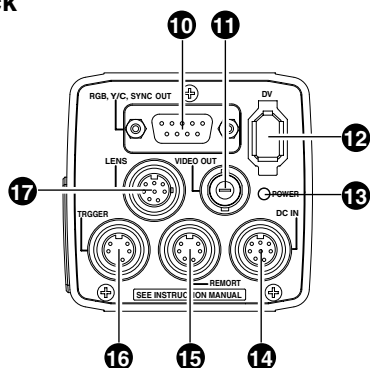
[ON] : Operate the camera via [DV] terminal (IEEE1394).

Operation via [MENU], [SET], [▲/BARS], [▼/AW] buttons and the remote control unit will not function.

[OFF] : Operate the camera via the buttons on this unit or the remote control unit. Operation via [DV] terminal (IEEE1394) is not functional.

Part Names and Functions (continued)

Back



10 [RGB, Y/C, SYNC OUT] Analog Output Terminal

Output terminal for R/G/B, Y/C and composite video/sync signal.

- ☞ Page 10 'Function Setting Switch'
- ☞ Page 13 'Description of Terminals'
- ☞ Page 48 'Connecting the analog output (D-SUB) Cable'

11 [VIDEO OUT] Video Signal Output Terminal

Output terminal for composite video signals. Connect to video input terminals such as monitors or switchers.

12 [DV] Digital Output Terminal

Digital output terminal for video. Connect this terminal to computer's [IEEE 1394] terminal or [DV] terminal equipped video devices.

- If this terminal is to be used, set Switch 1 located at the side of this unit to [ON].
- If this terminal is to be used to operate the camera, set Switch 4 located at the side of this unit to [ON].

- ☞ Page 10 'Function Setting Switch'
- ☞ Page 13 'Description of Terminals'
- ☞ Page 48 'Connecting the IEEE 1394 Cable'

13 [POWER] Power Indicator Light

Lights up when power is supplied to this unit.

14 [DC IN] Power Input Terminal

(Mini DIN 8 Pin, Female)

Power of this unit (DC 12 V) is supplied through this terminal.

Use an AC adaptor (AA-P700) for the power supply.

- ☞ Page 12 'Description of Terminals'
- ☞ Page 18 'Connecting the Power Supply'

15 [REMOTE] Remote Terminal

(Mini DIN 6 Pin, Female)

Terminal for connection to remote control unit (RM-LP55 or RM-LP57, both sold separately).

- ☞ Page 12 'Description of Terminals'
- ☞ Page 46 'Connecting the Remote Control Unit'

Caution

When using this unit as medical equipment, the remote control unit (RM-LP55 or RM-LP57 sold separately) cannot be used.

16 [TRIGGER] Trigger Terminal

(Mini DIN 5 Pin, Female)

For inputting and outputting the various types of timing signal when Slow Shutter or Random Trigger function is used.

- ☞ Page 12 'Description of Terminals'
- ☞ Page 49 'Technical Information'

17 [LENS] Lens Connection Terminal

(Mini DIN 8 Pin, Female)

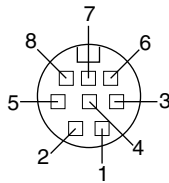
Connect the lens cable.

- ☞ Page 12 'Description of Terminals'
- ☞ Page 17 'Mounting the Lens'

1. Getting Started (continued)

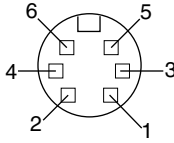
Description of Terminals

Power Input Terminal (Mini DIN 8 Pin, Female)



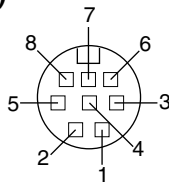
Pin No.	Signal
1	NC
2	GND
3	NC
4	NC
5	GND
6	+ 12 V Input
7	NC
8	+ 12 V Input

Remote Terminal (Mini DIN 6 Pin, Female)



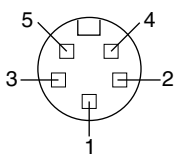
Pin No.	Signal
1	GND
2	OPERATE(L:ON)
3	GND
4	SID2(TX)
5	SID1(RX)
6	+ 9 V Output

Lens Connection Terminal (Mini DIN 8 Pin, Female)



Pin No.	Signal
1	LENS TYPE
2	GND
3	IRIS CONTROL
4	+ 12 V Output
5	SERVO SEL
6	ZOOM CONTROL
7	FOCUS CONTROL
8	Y SIGNAL OUT

**Trigger Terminal (Mini DIN 5 Pin, Female)
(TCS7858 : Hoshiden)**

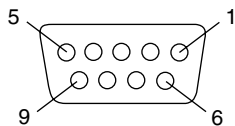


Pin No.	Signal
1	SI Output
2	TRIG Input
3	GND
4	WEN Output
5	NC

- Notes**
- Please consult your JVC-authorized dealer on connection of trigger terminal.
 - Ensure to use cables that are shielded.
- Suitable Plug: Mini DIN 5 PIN

Description of Terminals (continued)

Analog Output Terminal (D-sub 9 PIN, Female)



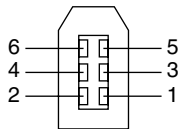
Pin No.	RGB Output
1	GND
2	GND
3	R OUT
4	G OUT
5	B OUT
6	Composite video OUT
7	Composite sync OUT
8	GND
9	GND

Notes

- Cannot be connected to computer monitor.
- Use the function setting switches located at the side of this unit to select between RGB or Y/C output.

Pin No.	Y/C Output
1	GND
2	GND
3	-
4	Y OUT
5	C OUT
6	Composite video OUT
7	Composite Sync OUT
8	GND
9	GND

Digital Output Terminal



Pin No.	Signal
1	VP (POWER)
2	VG (GND)
3	TPB -
4	TPB +
5	TPA -
6	TPA +

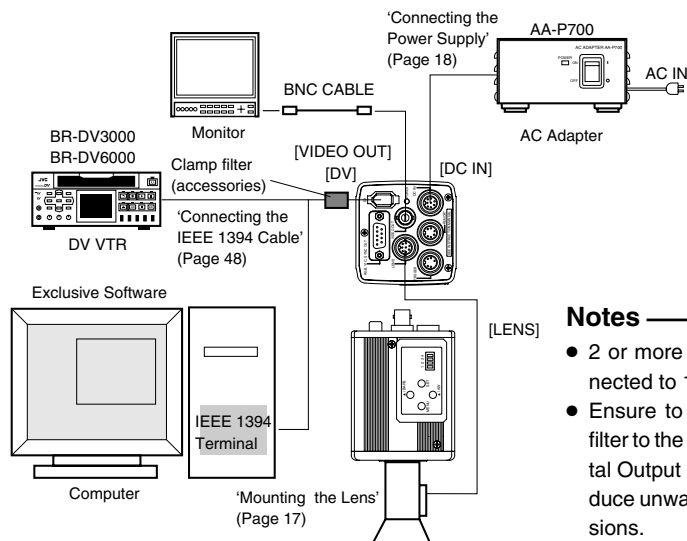
Note

Ensure to attach the supplied clamp filters to the cables connected to the Analog Signal Output [RGB, Y/C, SYNC OUT] terminal and Digital Output [DV] terminal in order to reduce unwanted electromagnetic emissions.

2. Preparation Before Shooting

Connecting Through Digital Output

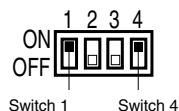
Computer can be used to control this unit remotely, record captured images on digital device or display them on the computer or monitor. (Please pre-install the exclusive software for this unit.)



Notes

- 2 or more of this unit cannot be connected to 1 computer.
- Ensure to attach the supplied clamp filter to the cable connected to the Digital Output [DV] terminal in order to reduce unwanted electromagnetic emissions.

1. Connect the [DV] terminal of this unit to the computer's DV [IEEE1394] terminal.
2. Set the Switch 1 and Switch 4 located at the side of this unit to [ON] (upper side).
3. Switch on the power of this unit.
4. Set the "DV SYSTEM" under "SYSTEM" screen to "JVC".
5. Power on the computer and launch the software.



With the exclusive software provided, it is possible to select the various camera settings and operate the camera for shooting. For details, please consult your JVC-authorized dealer.

※ Please refer to the software's HELP menu for details on how it could be used.

Caution

- Perform this when the devices are off.
- When the software has been launched, do not switch on/off the power of the AC adapter or insert and remove the IEEE 1394 cable.
- Disable the automatic standby or hibernation function of your computer before using it.
- This unit's power can be supplied from the IEEE 1394 cable. However, use the power supply voltage between 10.5 V - 15 V if power lens is to be used. Ensure that the supply capacity of the supply source is adequate in meeting the total power consumptions of both this unit and the power lens used.

Connecting Through Digital Output (continued)

■ Specification of Compatible Computer

- Pentium 4 2.4 GHz or higher DOS/V, PC/AT compatible machine is recommended.
- More than 256 MB RAM is recommended.
- Hard disk with a minimum 20 MB of available space.
- When video recording is performed, 7200 rpm and above IDE disk (RAID system is recommended).
- OS : Windows 2000Pro/XP
- Video card : AGP graphic card incorporated with NVIDIA GeForce4MX or GeForceFX chip (GeForce 4MX420, GeForce FX5700)
- DirectX 9.0 or later versions of Enduser Runtime

■ Suitable IEEE Host Adapter

- IEEE1394 host adapter card : Matrox Meteor 2-1394, Ratoc REX-CFW3

■ Compatible Lens

- Fujinon T14 X 5.5MD

■ Option

- AC Adapter : AA-P700

(Using the exclusive software with other graphic cards and under PC environment other than above-mentioned might cause a drop in the display performance of the preview window or error might occur.)

For latest information, please check the following homepage.

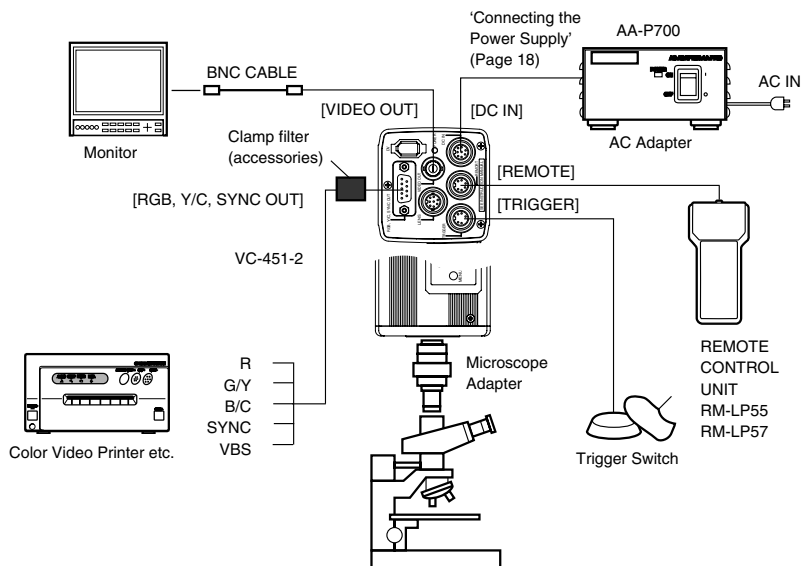
<http://www.jvc-victor.co.jp/english/pro/prodv/download/index.html>

For details, please consult your JVC-authorized dealer.

2. Preparation Before Shooting (continued)

Connecting Through Analog Output

Images taken by this unit can be output to monitor, color video printer or other devices.



1. Connect device such as the Color Video Printer to this unit's [RGB, Y/C, SYNC OUT] terminal.

2. Set the switches located at the side of this unit.

• Setting Switch 2

Set this switch to [ON] (upper side) for Y/C output.

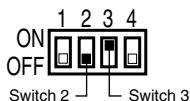
Set this switch to [OFF] (lower side) for RGB output.

• Setting Switch 3

Set this switch to [ON] (upper side) if sync signal is to be superimposed onto the Green (G) channel of the video signal.

☞ Page 10 'Function Setting Switch'

Example: During RGB output



3. Switch on the power of this unit.

Caution

- Perform this when the devices are off.
- Use the 1/3-inch, C mount adapter for the microscope adapter.

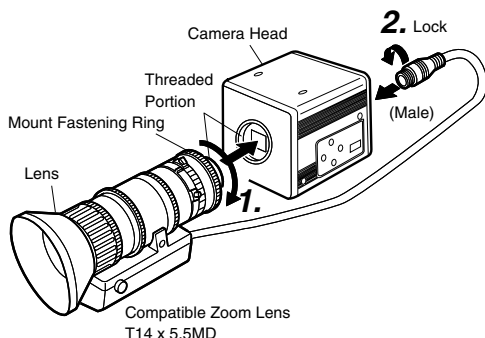
Notes

- Connect a switch between PIN 2 (TRIG) and PIN 3 (GND) of the [TRIGGER] terminal. If this switch is set to [ON], a trigger will freeze the input image to the camera and capturing of images synchronized with the trigger is possible.
- Ensure to attach the supplied clamp filter to the cable connected to the Analog Signal Output [RGB, Y/C, SYNC OUT] terminal in order to reduce unwanted electromagnetic emissions.

☞ Page 48

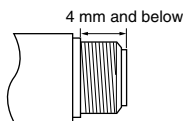
Mounting the Lens

Follow the procedures below when mounting the auto iris lens.
Refer to the 'instruction manual' for the lens as well.



Caution

- Perform this when the unit is off. Connecting with the power on may give rise to malfunction of the unit.
- When removing the lens mount cap, ensure that no foreign substances are inside the mount.
- Lenses are not supplied with this unit. Depending on the lens being used, this unit may be damaged. As such, ensure to use lens that are 4 mm or below, reference from the lens mount.



1. Align and press the threaded portion of the lens mount against the threaded portion of this unit's lens mount and turn the mount fastening ring clockwise slowly until the lens is firmly attached to this unit.

Note

To change the position of the lens rotation,

- ① First, loosen the mount fastening ring by rotating it anti-clockwise by 1/4 turn as viewed from the lens side.
- ② Turn the lens gently, adjust the position and tighten the mount fastening ring again.

2. Plug the lens cable into the [LENS] terminal at the back of the unit and ensure that it is locked. Iris control is carried out from this unit.

■ Setting the "IRIS MODE" of the "EXPOSURE" Screen

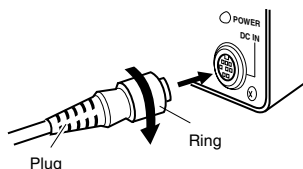
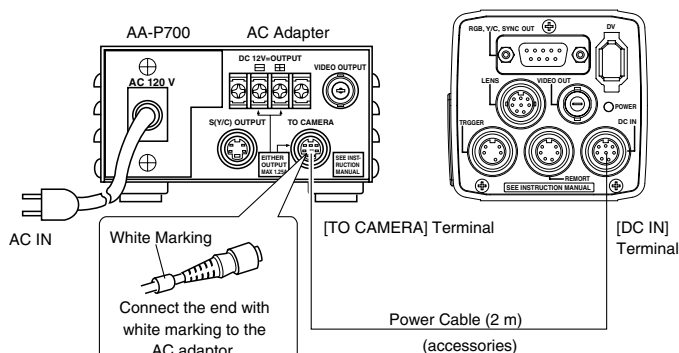
☞ Page 33

- If auto iris lens is to be used and iris control is to be automatically carried out, set to "AUTO".
- If auto iris lens is to be used and iris control is to be fine-tuned, set to "MANUAL".

2. Preparation Before Shooting (continued)

Connecting the Power Supply

Connect the [DC IN] terminal at the back of this unit to the [TO CAMERA] terminal of the AC adaptor (AA-P700) using the power cable supplied (2 m).



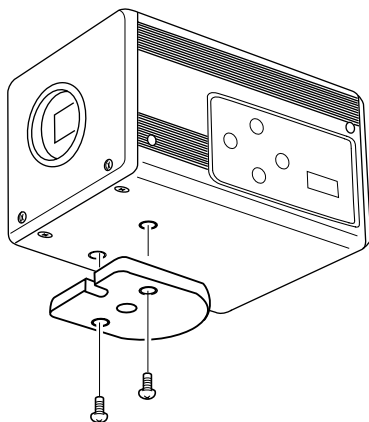
- Insert plug fully, turn ring and ensure that it is fastened.

Notes

- Ensure to make use of AA-P700 for the power supply.
When connecting, ensure that power switch of AA-P700 is turned OFF.
Connecting with the power on may give rise to malfunction of the equipment.
- When power is supplied, it takes several seconds before this unit is operable.
When the "SHUTTER" item under "EXPOSURE" screen is set to "SLOW", it might take even longer time.
- Allow a 10 second interval after switching off the power before turning on again. If the power switch is turned ON and OFF too soon, malfunctioning such as startup failure may occur.

Mounting the Camera

<Procedures for mounting camera mounting bracket>

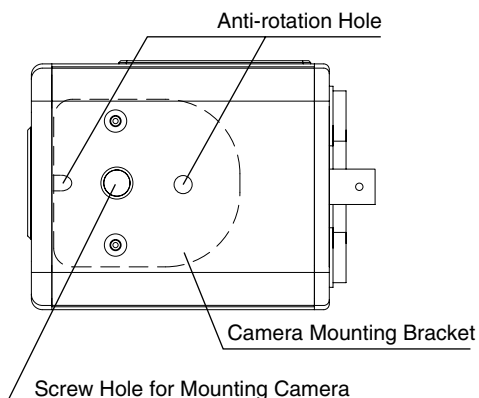


Use the supplied camera mounting bracket and 2 fastening screws of the camera mounting bracket to mount it to the top or bottom surface.

Caution

Make sure to use screws that are supplied with this unit. Use of screws that are 6 mm or longer in length may give rise to malfunction of the unit.

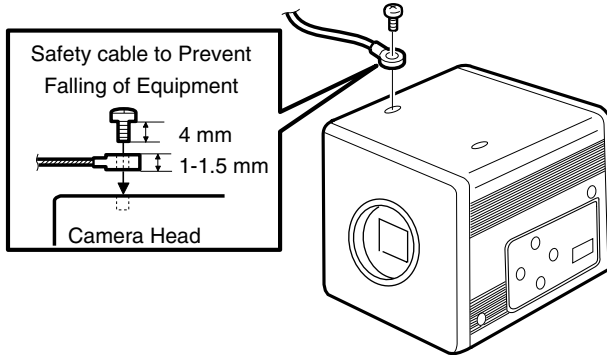
<Mounting Procedures>



- To mount this unit, make use of the screw holes for mounting the camera on the camera mounting bracket.
- When mounting this unit, make use of the anti-rotation hole to prevent it from falling.

2. Preparation Before Shooting (continued)

Precautions to Prevent Camera From Falling



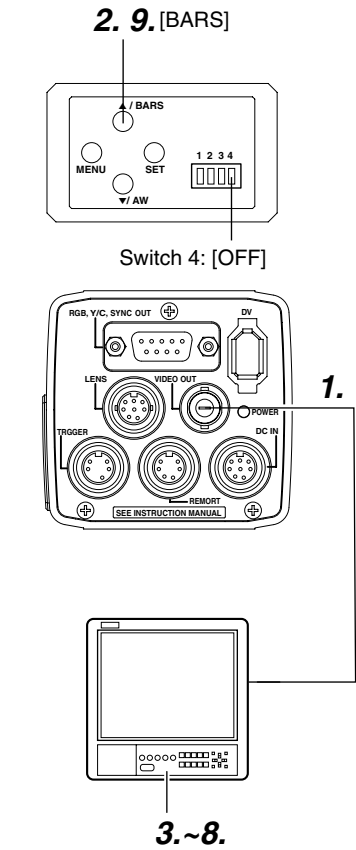
Caution

- Special attention is required when mounting to the wall or ceiling. Get a contractor to perform the work and avoid doing it on your own. Unit may fall off and cause injuries or accidents.
- Mount the unit to a secure place using safety cable to prevent it from falling. To mount, make use of the bracket fastening screw holes on the face without the camera mounting bracket. (M2.6 x 4 mm) Pay attention also to the length of the cable.
- Strength of cable to prevent falling of unit shall be at least 10 times greater than the total mass of the camera and lens.

3. Setting and Adjustment During Shooting

External Monitor Adjustment

Display the built-in color bars signal at the camera on the monitor to perform color/contrast/brightness adjustment.



1. Connect the color video monitor to the [VIDEO OUT] of this unit.
- ※ Make sure that the Switch 4 located at the side of this unit is set to [OFF] (lower side).
2. Press the [BARS] button to output the color bars signal (SMPTE-compliant color bars).
3. With the color bars displayed, turn [BLUE CHECK] at the monitor to ON. Screen turns into a monochrome of blue and color bars appear as blue stripes.
4. Turn the [CHROMA] adjustment knob on the monitor and adjust color bars ① and ⑧, ⑦ and ⑭ to the same brightness level.
5. With [BLUE CHECK] in the ON mode, turn the [PHASE] adjustment knob on the monitor to adjust color bars ③ and ⑩, ⑤ and ⑫ to the same brightness level.
6. If brightness of color bars ① and ⑧, ⑦ and ⑭ vary upon [PHASE] adjustment, repeat chroma adjustment as in step 4..
7. Turn [BLUE CHECK] at the monitor to OFF and return to the normal screen (R. G. B are all displayed).
8. Adjust using the [BRIGHT] adjustment knob on the monitor such that color bars ⑮ and ⑯ disappear, and ⑰ becomes visible.
9. Upon completing the adjustment, press the [BARS] button again to return to the normal screen.

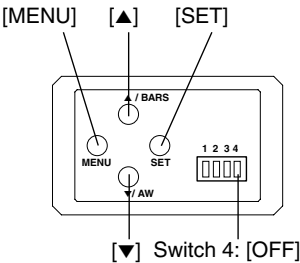
①	②	③	④	⑤	⑥	⑦
⑧	⑨	⑩	⑪	⑫	⑬	⑭
⑮	⑯	⑰	⑱	⑲	⑳	㉑

- | | | |
|------------|------------|----------|
| ①: White | ⑨: Black | ⑰: Black |
| ②: Yellow | ⑩: Magenta | |
| ③: Cyan | ⑪: Black | |
| ④: Green | ⑫: Cyan | |
| ⑤: Magenta | ⑬: Black | |
| ⑥: Red | ⑭: White | |
| ⑦: Blue | ⑮: Black | |
| ⑧: Blue | ⑯: White | |

3. Setting and Adjustment During Shooting (continued)

White Balance Adjustment

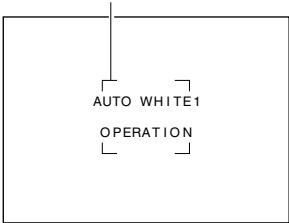
Color of light (color temperature) may vary with light sources. When light source for illumination of object is changed, adjust white balance (AUTO WHITE) again. Do not place strong reflectors such as metals near the object. This may cause error in achieving white balance.



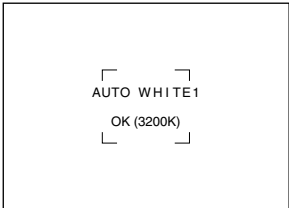
Item	Set Value
--- WHITE BALANCE ---	
▶ WHITE BALANCE	AUTO1
LEVEL (R)	0
LEVEL (B)	0
SHADING	PRESET
LEVEL (R)	-----
LEVEL (G)	-----
LEVEL (B)	-----
PAGE BACK	

"WHITE BALANCE" Screen

Auto White Operation Area



Auto White Operation Activated



Auto White Operation Ends

White balance adjustment includes Auto White, Full-time Auto White (FAW), manual and preset.

■ Setting procedures for Auto White ("AUTO1", "AUTO2")


- ✳ Make sure that the Switch 4 located at the side of this unit is set to [OFF] (lower side).
- 1. Press the [MENU] button for 1-2 seconds.
The "MENU" screen will be displayed.
- 2. Use the [▲/▼] buttons to select "WHITE BALANCE..", then press the [SET] button.
The "WHITE BALANCE" screen will be displayed.
- 3. Use the [▲/▼] buttons to select "WHITE BALANCE", then press the [SET] button.
The set value displayed will start to blink.
- 4. Use the [▲/▼] buttons to select "AUTO1" or "AUTO2", then press the [SET] button.
- 5. Press the [MENU] button for 1-2 seconds.
The normal screen will be displayed.

Note

Upon returning to the normal screen, place a white object with the same illumination conditions as the object, zoom in to the white portion at the center of the screen (above 80% within the area).


- 6. Press the [AW](Auto White) button.
 - When auto white is activated, the auto white operation area and "AUTO WHITE1,2 OPERATION" are displayed on the monitor.
 - When white balance is achieved, a rough color temperature as well as "AUTO WHITE1,2 OK" will be displayed for about 3 seconds before returning to the normal screen.

White Balance Adjustment (continued)




AUTO WHITE 1
NG: OBJECT

Object Error



AUTO WHITE 1
ERROR: LOW LIGHT

Insufficient Illumination



AUTO WHITE 1
ERROR: OVER LIGHT

Excessive Illumination

Error Display

When auto white adjustment is not correctly ended, the following message will be displayed for about 3 seconds.

- **“NG : OBJECT” (Object Error)**

Displayed when there is little white color in the object or when color temperature is not appropriate.

Change to a white object and perform procedures again to achieve white balance.

- **“ERROR : LOW LIGHT” (Insufficient Illumination)**

Displayed when the illumination is too dark. Open the lens aperture or brighten the illumination and perform procedures again to achieve white balance.

- **“ERROR : OVER LIGHT” (Excessive Illumination)**

Displayed when the illumination is too bright. Close the lens aperture or darken the illumination and perform procedures again to achieve white balance.

Caution

- When this unit is set as below, auto white cannot be activated.
 - When the “SHUTTER” item under “EXPOSURE” screen is set to “SLOW”.
 - When the “MODE” item under “CAPTURE” screen is set to “RANDOM TRG”.
 - When auto white shading is being activated.
- If white balance is to be adjusted when processing frozen image, return to the normal screen before activating auto white.

■ Full-time Auto White (FAW) Function

Automatic adjustment of white balance according to different illumination conditions.

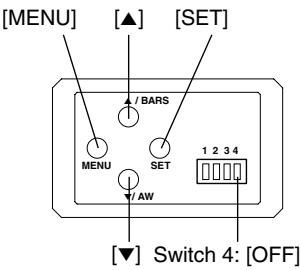
This mode is useful when there is no time to readjust white balance or when camera is frequently moved to locations with different illumination conditions.

- However, white balance cannot be properly achieved in cases that are beyond the adjustable range of the full-time auto white function, such as when there is only one color or little white color in the object.
- Precision of FAW deteriorates when compared with auto white balance.
- When power is turned on in the FAW mode, it takes about 10 seconds for the FAW automatic adjustment to end.

3. Setting and Adjustment During Shooting (continued)

White Shading Adjustment

There are cases when white balance is achieved for the center of the screen but not for the upper and lower ends, hence causing other colors to appear with green or magenta. This is brought about by the lens characteristics. The process of rectifying this is known as white shading.



Perform the following setting upon adjusting white balance.

☞ Page 22

■ Auto White Shading Adjustment

✳ Make sure that the Switch 4 located at the side of this unit is set to [OFF] (lower side).

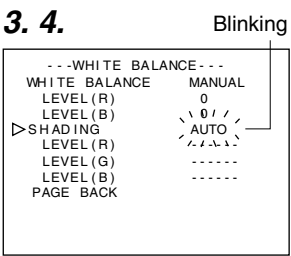
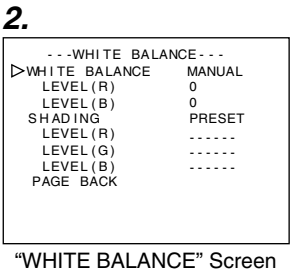
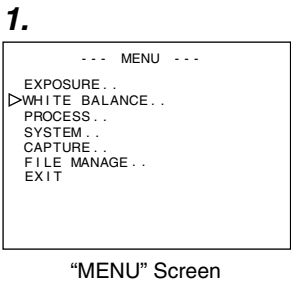
1. Press the [MENU] button for 1-2 seconds.
The "MENU" screen will be displayed.
2. Use the [▲/▼] buttons to select "WHITE BALANCE..", then press the [SET] button.
The "WHITE BALANCE" screen will be displayed.
3. Use the [▲/▼] buttons to select "SHADING", then press the [SET] button.
The set value starts blinking and adjustment is possible.
4. Use the [▲/▼] buttons to set value to "AUTO", then press the [SET] button.
5. Press the [MENU] button for 1-2 seconds.
The normal screen will be displayed.

Note

After returning to normal screen, shoot a white object to the entire screen.

In addition, pay attention to the followings for proper adjustment.

- Use an object which is evenly white.
- Adjust so that the object has an even brightness.
- Set the lens aperture from F4.



White Shading Adjustment (continued)

AUTO SHADING
OPERATION

AUTO SHADING
OK

AUTO SHADING
NG: OBJECT

Object Error

AUTO SHADING
ERROR: LOW LIGHT

Insufficient Illumination

AUTO SHADING
ERROR: OVER LIGHT

Excessive Illumination

6. Press the [AW] (Auto White) button for 1-2 seconds.

- When auto shading is activated, "AUTO SHADING OPERATION" is displayed on the monitor.
- When auto shading adjustment is achieved, "AUTO SHADING OK" will be displayed for about 3 seconds before returning to the normal screen.

Caution

- When this unit is set as below, auto white shading cannot be activated.
 - When the "SHUTTER" item under "EXPOSURE" screen is set to "SLOW".
 - When the "MODE" item under "CAPTURE" screen is set to "RANDOM TRG".
 - When auto white is being activated.
- If white shading is to be adjusted when processing frozen image, return to the normal screen before activating auto white shading.

7. Upon completing auto white shading adjustment, perform white balance adjustment again.

☞ Page 22 'White Balance Adjustment'

Error Display

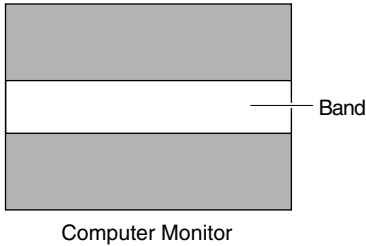
When auto white shading adjustment is not correctly ended, the following message will be displayed for about 3 seconds.

- **"NG : OBJECT"** (Object Error)
Displayed when the object is not evenly white.
Change to an evenly white object and perform procedures again to achieve auto white shading.
- **"ERROR : LOW LIGHT"** (Insufficient Illumination)
Displayed when the illumination is too dark. Open the lens aperture or brighten the illumination and perform the procedures again to achieve auto white shading.
- **"ERROR : OVER LIGHT"** (Excessive Illumination)
Displayed when the illumination is too bright. Close the lens aperture or darken the illumination and perform the procedures again to achieve auto white shading.

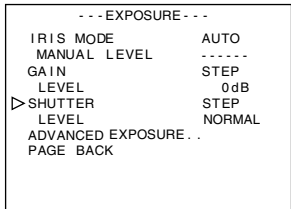
4. Various Modes of Shooting

Shooting the Computer Monitor

When shooting images of computer monitors or displays, horizontal bands will appear on the screen. To eliminate the bands, it will be necessary to align the shutter speed with the scanning frequency of the monitor.

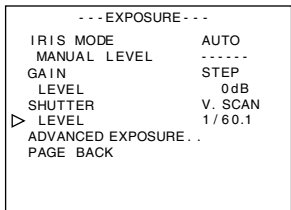


3. 4.



“EXPOSURE” Screen

5. 6.



※ Make sure that the Switch 4 located at the side of this unit is set to [OFF] (lower side).

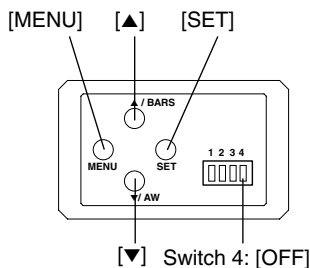
1. Press the [MENU] button for 1-2 seconds.
The “MENU” screen will be displayed.
2. Use the [▲/▼] buttons to select “EXPOSURE..”, then press the [SET] button.
3. Use the [▲/▼] buttons to select “SHUTTER”, then press the [SET] button.
The set value starts blinking and adjustment is possible.
4. Use the [▲/▼] buttons to set value to “V. SCAN”, then press the [SET] button.
5. Use the [▲/▼] buttons to select “LEVEL”, then press the [SET] button.
6. Use the [▲/▼] buttons to adjust the shutter speed. Pay attention to the screen,
If black bands are visible : use the [▼] button to lower the shutter speed
If white bands are visible : use the [▲] button to increase the shutter speed
7. When bands are decreased to the minimum, press the [SET] button. This will be recorded in the memory of the unit.
8. Press the [MENU] button for 1-2 seconds.
The normal screen will be displayed.

Note

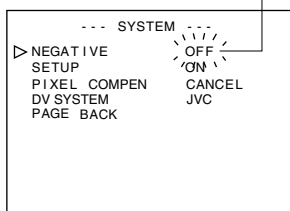
Vertical scanning frequency may vary with computer types and there are cases when bands may not be fully eliminated. In addition, frequency may also differ depending on the software used.

Output of Negative Image

It is possible to convert video signals from the various output terminals of this unit into negative images.

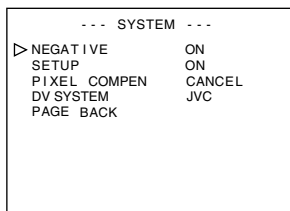


2. 3. Blinking



"SYSTEM" Screen

4. 5.



"SYSTEM" Screen

※ Make sure that the Switch 4 located at the side of this unit is set to [OFF] (lower side).

1. Press the [MENU] button for 1-2 seconds.
The "MENU" screen will be displayed.
2. Use the [▲/▼] buttons to select "SYSTEM..", then press the [SET] button.
The "SYSTEM" screen will be displayed.
3. Use the [▲/▼] buttons to select "NEGATIVE", then press the [SET] button.
The set value starts blinking and adjustment is possible.
4. Use the [▲/▼] buttons to set value to "ON", then press the [SET] button.
This will be recorded in the memory of this unit.
Output image will be converted to negative images.
5. Press the [MENU] button for 1-2 seconds.
The normal screen will be displayed.

4. Various Modes of Shooting (continued)

White Spot Correction

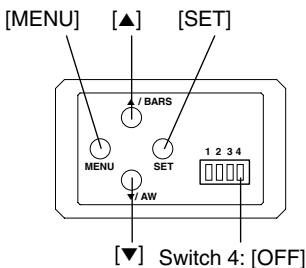
As a peculiar common characteristic of CCD, white spots may appear on the screen when it is operated under high temperature or when shutter speed is prolonged during use.

This unit comes with a white spot correction feature to reduce this phenomenon.

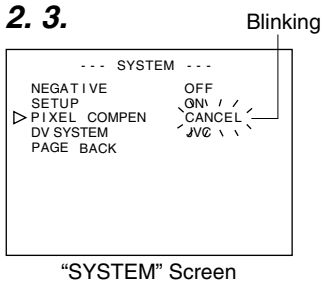
How To Use

■ Detection of White Spots

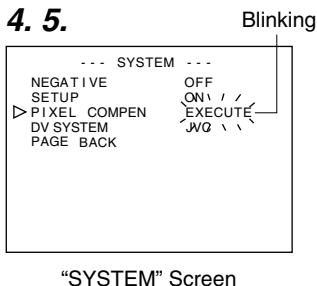
The quantity and size of white spots differ with the temperature and shutter speed during use. Before using the white spot correction feature, it will thus be necessary to detect the position of the white spots under the conditions of use.



2. 3.



4. 5.



Preparation

- Set the conditions of use (ambient temperature, shutter speed, etc.) in this unit.
- When Random Trigger or Slow Shutter function has been set, White Spot Correction cannot be activated. Change to other settings.
- Turn on the power of the camera and leave it on for at least 2 hours.
- Close the lens iris to ensure that no light enters the CCD. (When using Galvano lens, use lens cap to prevent light from entering the CCD.)

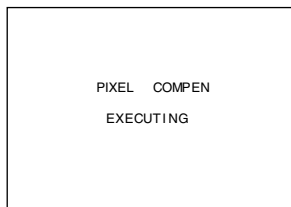
Operation

- ✳ Make sure that the Switch 4 located at the side of this unit is set to [OFF] (lower side).
1. Press the [MENU] button for 1-2 seconds.
The "MENU" screen will be displayed.
 2. Use the [▲/▼] buttons to select "SYSTEM..", then press the [SET] button.
The "SYSTEM" screen will be displayed.
 3. Use the [▲/▼] buttons to select "PIXEL COMPEN", then press the [SET] button.
The "CANCEL" value starts blinking and adjustment is possible.
 4. Use the [▲/▼] buttons to select "EXECUTE" and press the [SET] button to start the white spot detection.
Detection process may take a few minutes to complete.
 5. Upon completing detection, "Detection Completed" screen will be displayed.
 6. Turn on the power again.
Allow a 10 seconds interval after switching off the power before turning on again.
When power is turned on, white spots will be corrected.

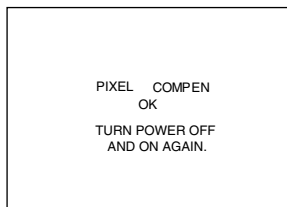
White Spot Correction (continued)

■ White Spots Correction Messages

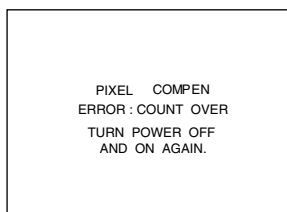
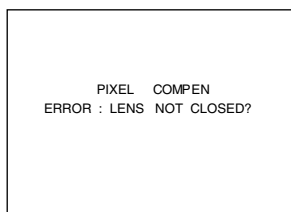
Detecting Screen



Detection Completed Screen



Detection Error Screen

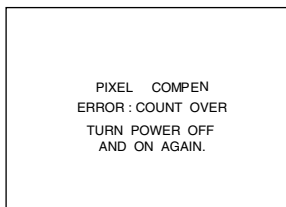
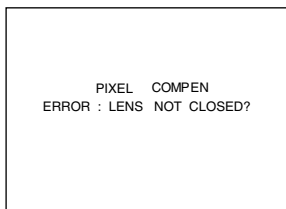


Notes

- The white spot correction feature of this unit does not correct all white spots. Detection and correction of white spots by this unit is performed under the following conditions. White spot correction will not be performed under conditions beyond those stated. In cases where conditions are fulfilled, correction may not be successfully performed depending on the nature of the white spots.

In such case, perform the detection again until white spots are detected.
Consult your JVC authorized dealer if white spots cannot be corrected.
Quantity of Detection/Correction: 32 or less

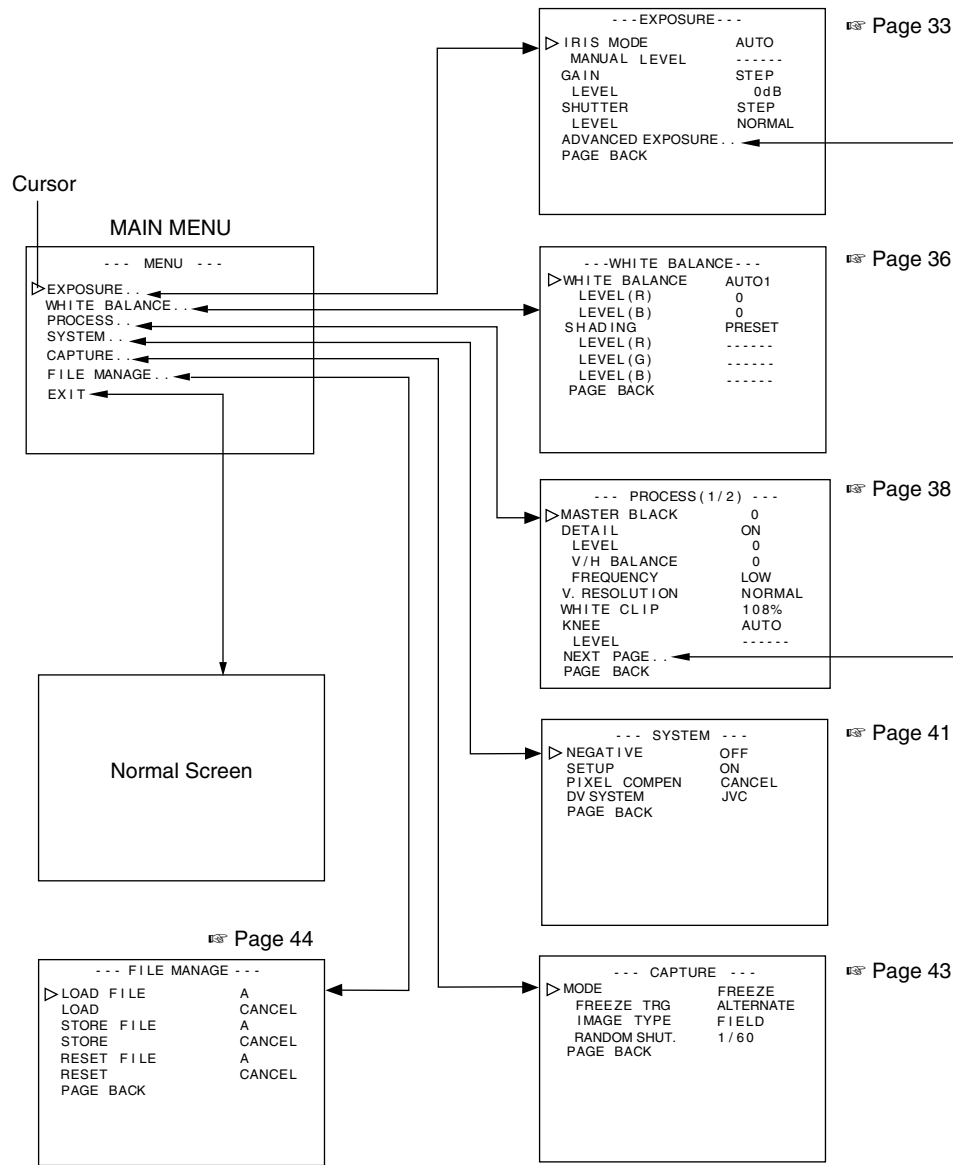
- The screen on the right may be displayed during detection of white spots in cases when light enters the CCD during detection or depending on the condition of white spots. In this case, check if there is light entering the CCD.
- During white spot correction, pixel data is obtained via interpolation of pixel information from the surroundings. Thus data may not be accurate for fine images.
- Results of white spot detection will be stored until the next detection is performed.
- During white spot detection, operation via the remote control will be disabled.



5. Setting Via the Menu Screen

Flow of Menu Screens

The menu screen is made up of multiple layers of menu screens as illustrated in the diagram below. Select the menu screen for setting at the MAIN MENU screen according to function and usage, and perform setting accordingly.



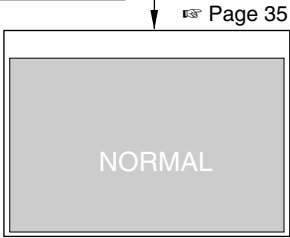
Flow of Menu Screens (continued)

- At any displayed screen, normal screen will be restored if [MENU] button is pressed for 1-2 seconds.
- When the remote control is connected, items that can be operated via the remote control will be displayed as “REMOTE” on the menu screen. Operation of these items via the camera unit will be disabled.

--- ADVANCED EXPOSURE ---

▷ ALC LIMIT	+18 dB
EEL LIMIT	1/240
AE LEVEL	0
AE DETECT	NORMAL
AE AREA..	
PAGE BACK	

Page 35



--- PROCESS (2/2) ---

▷ COLOR MATRIX	STANDARD
ADJUST..	
GAMMA	MANUAL
LEVEL	0
BLACK	NORMAL
FLARE	ON
MASTER	0
FLARE(R)	0
FLARE(B)	0
PAGE BACK	

Page 40

Page 42

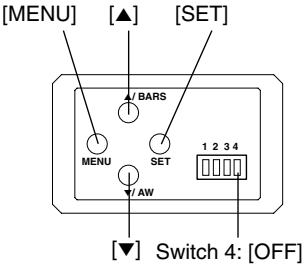
--- MATRIX ADJUST ---

▷ R GAIN	0
R ROTATION	0
G GAIN	0
G ROTATION	0
B GAIN	0
B ROTATION	0
PAGE BACK	

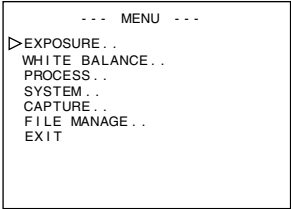
5. Setting Via the Menu Screen (continued)

Setting Procedures

The various functions of this unit can be set using the menu screen. Settings will be stored in the memory of this unit and will remain recorded when the power is turned off.

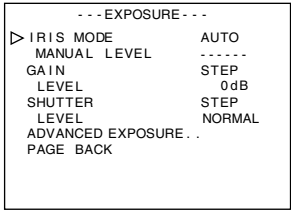


3.



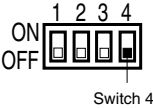
"MENU" Screen

4.



"EXPOSURE" Screen
(Example)
(Submenu Screen)

1. Set the Switch 4 located at the side of this unit to [OFF] (lower side).



- 2. Switch on the power to this unit.
- 3. Press the [MENU] button for 1-2 seconds. The "MENU" screen will be displayed.
- 4. Use the [▲/▼] buttons to select an item, followed by pressing the [SET] button. The submenu screen will be displayed.
- 5. For the submenu screens, similarly, use the [▲/▼] buttons to select an item, then press the [SET] button. The set value starts blinking and adjustment is possible.
- 6. Use the [▲/▼] buttons to alter the set value, followed by pressing the [SET] button. Set value will be confirmed and recorded in the memory of this unit.

Note

If there is a huge difference in the magnitude of value to be set, press and hold the [▲/▼] buttons to speed up the change. Use this when making a significant change to the set value.

7. Press the [MENU] button for 1-2 seconds. The normal screen will be displayed.

“EXPOSURE” Screen

Settings in bold are factory settings

Item	Function/Variable Values
“IRIS MODE”	Switch according to the lens in use. “AUTO” : When using auto iris lens. “MANUAL” : When using manual iris lens.
“MANUAL LEVEL”	For setting the iris level when “IRIS MODE” is set to “MANUAL”. (Set the iris mode switch on the lens side to “AUTO”). Increase value : Opens the iris. Decrease value : Closes iris. {Variable Values : 0 - 128 - 255} Note _____ When “IRIS MODE” is set to “AUTO”, “MANUAL LEVEL” item selection will be disabled. (Displayed as “- - - - -”)
“GAIN”	For switching the electric sensitivity mode. “STEP” : Gain boost level can be altered using the “LEVEL” item. “V. GAIN” : Gain boost level can be fine-tuned using the “LEVEL” item. “ALC” : Alters gain boost level automatically according to the brightness. Set the maximum value at the “ALC LIMIT” item. ☞ Page 35
“LEVEL”	Gain boost level can be altered when gain boost mode is set as “STEP” or “V. GAIN”. {Variable “STEP” Values: -3, 0 , +3, +6, +9, +12, +15, +18dB, LOLUX} {Variable “V. GAIN” Values: -3 - 0 - 18dB 0.2dB Step} Note _____ When “GAIN” is set to “ALC”, “LEVEL” item selection will be disabled. (Displayed as “- - - - -”)
“SHUTTER”	For switching the shutter mode. “STEP” : Shutter speed can be altered using the “LEVEL” item. “V. SCAN” : Align scan speed of monitor to eliminate horizontal lines that appear when shooting the computer monitor. Shutter can be fine-tuned using the “LEVEL” item. ☞ Page 26 ‘Shooting the Computer Monitor’

5. Setting Via the Menu Screen (continued)

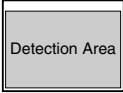
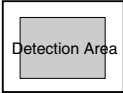
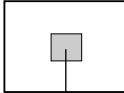
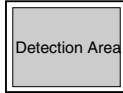

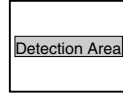
“EXPOSURE” Screen (continued)

Settings in bold are factory settings

Item	Function/Variable Values
“SHUTTER”	<p>“EEI” : Adjusts shutter speed automatically according to brightness of object. (Maximum value: 1/960) Set the maximum value at the “EEI LIMIT” item. Page 35</p> <p>“SLOW” : Slow shutter speed can be fine-tuned using the “LEVEL” item. Accumulates up to 240 frames of image (approximately 8 seconds). Boosts the brightness of images during shooting for objects with insufficient illumination and little motion.</p> <p>Notes</p> <ul style="list-style-type: none"> • When setting to “SLOW”, set the “GAIN” item to other than “ALC”. • When the setting is “SLOW”, the screen refresh interval will be longer if the frame rate is increased. In addition, the change of menu setting is reflected after the screen is refreshed.
“LEVEL”	<p>{Variable “STEP” Values : NORMAL (1/60), 1/100, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10000}</p> <p>{“V. SCAN” variable : Approx. 1/60 - approx. 1/10000}</p> <p>{Variable Values : 1 frame - 240 frame}</p> <p>Notes</p> <ul style="list-style-type: none"> • When “SHUTTER” is set to “EEI”, “LEVEL” item selection will be disabled. (Displayed as “- - - - -”) • When the “SHUTTER” item is set to “SLOW” or when the “MODE” item under “CAPTURE” screen is set to “RANDOM TRG”, the operation of auto white, auto iris, “ALC” and “FAW” will be as follows: Auto White : Startup of auto white is disabled. Auto Iris : Change to “MANUAL”. “ALC” : Change to “STEP (0 dB)”. “FAW” : Change to “AUTO1”. • There will be insufficient light intensity if the shutter speed is increased and adjustment of lens iris and gain will be necessary. Attention shall be paid to the picture quality when gain is increased as this increases the sensitivity and screen may become grainy as a result.
“ADVANCED EXPOSURE”	<p>Invokes the “ADVANCED EXPOSURE” screen. Page 35 “ADVANCED EXPOSURE” Screen’</p>
“PAGE BACK”	<p>Press the [SET] button to return to the “MENU” screen when cursor is at this position.</p>

“ADVANCED EXPOSURE” Screen

Settings in bold are factory settings

Item	Function/Variable Values
“ALC LIMIT”	For setting the maximum “ALC” value that triggers automatic switching of gain boost level according to the brightness. {Variable Values : +9, +12, +15, + 18 dB }
“EEI LIMIT”	For setting the maximum shutter speed when shutter mode is set to “EEI”. 1/240 : Set as 1/240 seconds. 1/480 : Set as 1/480 seconds. 1/960 : Set as 1/960 seconds.
“AE LEVEL”	For adjusting the image level when using auto iris, “ALC” or “EEI”. Increase value : Increases level. Decrease value : Decreases level. {Variable Values: -5 - 0 - +5}
“AE DETECT”	Selects the detection method of the detection area when auto iris, “ALC” or “EEI” is used. “ NORMAL ” : Normal Position “PEAK” : Detects the maximum brightness value (peak level) to enhance visibility of objects with high luminance. “AVG” : Detects the average brightness value (average) to enhance visibility of objects with high luminance.
“AE AREA..”	Invokes the “AE AREA” screen. For selecting the detection area of the image level when using auto iris, “ALC” or “EEI”. <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;"> <p>“NORMAL”</p>  </div> <div style="text-align: center;"> <p>“SQUARE”</p>  </div> <div style="text-align: center;"> <p>“SPOT”</p>  <p>Detection Area</p> </div> <div style="text-align: center;"> <p>“FULL”</p>  </div> <div style="text-align: center;"> <p>“CIRCLE”</p>  </div> <div style="text-align: center;"> <p>“RECTANGLE”</p>  </div> </div>
“PAGE BACK”	Press the [SET] button to return to the “EXPOSURE” screen when cursor is at this position.

Note

The “AE LEVEL”, “AE DETECT” and “AE AREA” items cannot be selected when operation of auto iris, “ALC” and “EEI” are set as disabled.

The “AE LEVEL” and “AE DETECT” items are displayed as “- - - - -”.

5. Setting Via the Menu Screen (continued)

“WHITE BALANCE” Screen

Settings in bold are factory settings


Item	Function/Variable Values
“WHITE BALANCE”	For setting the white balance mode. “ AUTO 1 ” : Set to this to enable automatic adjustment of white balance. “AUTO 2” : Equipped with 2 modes (“AUTO 1” and “AUTO 2”). ☞ Page 22 ‘White Balance Adjustment’ “LEVEL (R)” and “LEVEL (B)” items allow fine-tuning of white color upon achieving white balance. “FAW” : Automatic adjustment of white balance according to different illumination conditions. “MANUAL” : Manual adjustment of white balance. Can be altered using the “LEVEL (R)” and “LEVEL (B)” items. “PRESET” : Fixes white balance at 3200 K.
“LEVEL (R)”	For adjusting the reddishness of white balance when “WHITE BALANCE” is set to “AUTO” or “MANUAL”. Increase value : Increases reddishness on screen. Decrease value : Decreases reddishness on screen. {Variable Values During “AUTO”: -32 - 0 - +31} {Variable Values During “MANUAL”: 0 - 128 - 255}
“LEVEL (B)”	For adjusting the bluishness of white balance when “WHITE BALANCE” is set to “AUTO” or “MANUAL”. Increase value : Increases bluishness on screen. Decrease value : Decreases bluishness on screen. {Variable Values During “AUTO”: -32 - 0 - +31} {Variable Values During “MANUAL”: 0 - 128 - 255}

Notes

- Selection of “LEVEL (R)” and “LEVEL (B)” items is disabled when the “WHITE BALANCE” item is set to “PRESET” or “FAW”. (Displayed as “- - - -”)
- When the “MODE” item under “CAPTURE” screen is set to “RANDOM TRG”, the “WHITE BALANCE” item under “FAW” cannot be selected. In addition, although “AUTO1” and “AUTO2” can be selected, auto white cannot be activated even if the [AW] button is pressed.

“WHITE BALANCE” Screen (continued)

Settings in bold are factory settings

Item	Function/Variable Values
“SHADING”	For setting whether to perform white shading adjustment. “PRESET” : Sets to factory adjustment value. Adjustment is disabled. “MANUAL” : Performs white shading adjustment manually. “AUTO” : Performs white shading adjustment automatically.  Page 24 ‘White Shading Adjustment’
“LEVEL (R)”	For adjusting reddishness of white shading only when the “SHADING” item is set to “MANUAL”. Increase value : Decreases reddishness at lower end and increases reddishness at upper end of screen. Decrease value : Decreases reddishness at upper end and increases reddishness at lower end of screen. {Variable Values: -128 - 0 - +127}
“LEVEL (G)”	For adjusting greenishness of white shading only when the “SHADING” item is set to “MANUAL”. Increase value : Decreases greenishness at lower end and increases greenishness at upper end of screen. Decrease value : Decreases greenishness at upper end and increases greenishness at lower end of screen. {Variable Values: -128 - 0 - +127}
“LEVEL (B)”	For adjusting bluishness of white shading only when the “SHADING” item is set to “MANUAL”. Increase value : Decreases bluishness at lower end and increases bluishness at upper end of screen. Decrease value : Decreases bluishness at upper end and increases bluishness at lower end of screen. {Variable Values: -128 - 0 - +127}
“PAGE BACK”	Press the [SET] button to return to the “MENU” screen when cursor is at this position.

Note

Selection of “LEVEL (R)”, “LEVEL (G)” and “LEVEL (B)” items is disabled when the “SHADING” item is set to “PRESET” or “AUTO”. (Displayed as “- - - - -”)

5. Setting Via the Menu Screen (continued)


“PROCESS (1/2)” Screen

Settings in bold are factory settings

Item	Function/Variable Values
“MASTER BLACK”	For adjusting the pedestal level (master black), which is based on the black color when the lens cap is being put on. To view the black portion, increase the pedestal level to brighten the entire screen. Increase value : Increases pedestal. Decrease value : Decreases pedestal. {Variable Values: -10 - 0 - +10}
“DETAIL”	For setting to highlight the contour (detail). “ON” : Highlight of contour enabled. “OFF” : Highlight of contour disabled. “LEVEL”, “V/H BALANCE”, “FREQUENCY” items are displayed as “- - - - -”. Caution _____ When “LOLUX” is activated, the adjustment feature will not work even if the menu operation under “DETAIL” item is performed. (Displayed as “(OFF)”)
“LEVEL”	For setting highlight level of contour (detail) when “DETAIL” is set to “ON”. Increase value : Sharpens contour. Decrease value : Softens contour. {Variable Values : -10 - 0 - +10}
“V/H BALANCE”	For setting whether to emphasize the horizontal (H) or vertical (V) direction during contour highlight (detail) when “DETAIL” is set to “ON”. Increase value : Emphasize on H direction. Decrease value : Emphasize on V direction. {Variable Values : -5 - 0 - +5}
“FREQUENCY”	For altering the frequency for contour highlight (detail) when “DETAIL” is set to “ON”. Set this according to the object. “LOW” : Lowers the frequency for contour highlight. Use this when shooting objects with large patterns. “MIDDLE” : Sets the frequency for contour highlight to standard. “HIGH” : Increases the frequency for contour highlight. Use this when shooting objects with fine patterns.
“V. RESOLUTION”	For increasing the vertical resolution. “NORMAL” : Vertical resolution of approx. 380 lines. “V.MAX” : Vertical resolution of approx. 450 lines. Caution _____ In the case of “V.MAX”, colors may be found on the brighter portions of the object depending on its color temperature. In addition, when the “LEVEL” item under “SHUTTER” is set to “NORMAL”, there will be more residual images. For the settings other than “NORMAL”, image will be darker than “NORMAL” as the sensitivity is decreased by half.

“PROCESS (1/2)” Screen (continued)

Settings in bold are factory settings

Item	Function/Variable Values
“WHITE CLIP”	For setting a white clipping point for video signals of a high luminance level. “108%” : Enable white clipping at point where luminance level is 108%. “100%” : Enable white clipping at point where luminance level is 100%.
“KNEE”	For setting whether to automatically or manually perform the “KNEE” operation, which compresses video signals that are beyond a certain level in order to show the gradation of the highlighted portion. To double-check gradation of the bright portion, set to “MANUAL” and adjust knee point manually. “AUTO” : Adjusts Knee point automatically. “MANUAL” : Knee point can be altered using the “LEVEL” item.
“LEVEL”	For setting the starting point of knee compression (knee point). Increase value : Increases the knee point level. Decrease value : Decreases the knee point level. The smaller the value, the more readily visible is the gradation of high luminance levels. {Variable Values : 80, 85, 90, 95, 100 % } Note _____ When in the “AUTO” mode, the “KNEE” item is displayed as “- - - - -”. In addition, when the “SHUTTER” item under “EXPOSURE” screen is set to “SLOW” or when the “MODE” item under “CAPTURE” screen is set to “RANDOM TRG”, it will change to “MANUAL”.
“NEXT PAGE”	Press the [SET] button to invoke the “PROCESS(2/2)” screen when the cursor is at this position.  Page 40 ‘PROCESS (2/2) Screen’
“PAGE BACK”	Press the [SET] button to return to the “MENU” screen when cursor is at this position.

“KNEE” Function

When aligning brightness level to the person in front of a high luminance background during shooting, the background will blurred with white. In this case, use the knee function to obtain a clear background.

It will be effective to make use of this function under the following circumstances.

- When shooting a person indoors and view outside the window at the same time
- When shooting a person under a shade on a fine day
- When shooting a high-contrast scene


Caution

If the high-luminance section of a fast-moving body such as a car under sunlight is shot, the knee function may cause brightness of the entire screen to change according to the motion of the object. In this case, set the “KNEE” item to “MANUAL” during shooting.

5. Setting Via the Menu Screen (continued)

“PROCESS (2/2)” Screen

Settings in bold are factory settings

Item	Function/Variable Values
“COLOR MATRIX”	For setting color matrix. “OFF” : Disabled. “STANDARD” : Sets to standard color matrix. “MANUAL” : Sets color matrix to the manual adjustment mode.
“ADJUST..”	This can be selected only when the “COLOR MATRIX” item is set to “MANUAL”. Press the [SET] button to invoke the “MATRIX ADJUST” screen.  Page 42 ‘MATRIX ADJUST Screen’
“GAMMA”	For adjusting the gamma curve that determines the reproducibility of black color. “OFF” : Disables gamma curve adjustment. “MANUAL” : Amount of gamma curve adjustment can be altered using the “LEVEL” item.
“LEVEL”	Gamma curve adjustment is enabled only when the “GAMMA” item is set to “MANUAL”. Increase value : Enhances gradation of black. However, gradation of bright portions will deteriorate. Decrease value : Enhances gradation of bright portions. However, gradation of black will deteriorate. {Variable Values : -5 - 0 - +5} Note _____ Displayed as “- - - - -” when the “GAMMA” item is set to “OFF”.
“BLACK”	For switching gain of the dark portions. Switch via the video signals to be shot. “NORMAL” : Standard mode “STRETCH” : Stretches only the darker portions of the signal, thus emphasizing the light and shade of the darker portions. “COMPRESS” : Compresses gain of the black portion to add contrast in the case when image shot is bright and with little contrast.
“FLARE”	For correcting the black level when light that enters the lens reflects irregularly and hence causing flare, where color appears on the black portion. “OFF” : Correction disabled. “ON” : Correction enabled. Note _____ Selection of “MASTER”, “FLARE (R)” and “FLARE (B)” items is disabled when the “FLARE” item is set to “OFF”. (Displayed as “- - - - -”)
“MASTER”	Performs correction on the entire black level. Increase value : Increases black level. Decrease value : Reduces black level. {Variable Values : -10 - 0 - +10}

“PROCESS (2/2)” Screen (continued)

Settings in bold are factory settings

Item	Function/Variable Values
“FLARE (R)”	For correcting Rch of black level in accordance with the luminance level when light that enters the lens reflects irregularly, hence causing flare, where color appears on the black portion. Perform this together with “FLARE (B)”. Increase value : Increases the black level of Rch to enhance the reddishness. Decrease value : Decreases the black level of Rch to reduce the reddishness. {Variable Values : -10 - 0 - +10}
“FLARE (B)”	For correcting Bch of black level in accordance with the luminance level when light that enters the lens reflects irregularly, hence causing flare, where color appears on the black portion. Perform this together with “FLARE (R)”. Increase value : Increases the black level of Bch to enhance the bluishness. Decrease value : Decreases the black level of Bch to reduce the bluishness. {Variable Values : -10 - 0 - +10}
“PAGE BACK”	Press the [SET] button to return to the “PROCESS(1/2)” screen when cursor is at this position.

“SYSTEM” Screen

Settings in bold are factory settings

Item	Function/Variable Values
“NEGATIVE”	Signals from the various output terminals can be output as negative signals. “ON” : Outputs negative signals. “ OFF ” : Outputs normal video signals.
“SET UP”	For setting whether to add setup signals to the camera images. “ON” : Add setup signals. “OFF” : Do not add setup signals.
“PIXEL COMPEN”	For setting whether to perform white spot correction. “ CANCEL ” : Do not perform white spot correction. “EXECUTE” : Perform white spot correction. Page 28 ‘White Spot Correction’
“DV SYSTEM”	For setting the software to be used for remote-controlling this unit via the [DV] terminal. “ JVC ” : When using the exclusive software of this unit. “OTHERS” : When using software other than the exclusive software. (Setting of ‘ 9 Function Setting Switch’ on the side of this unit is necessary Page 10)
“PAGE BACK”	Press the [SET] button to return to the “MENU” screen when cursor is at this position.

5. Setting Via the Menu Screen (continued)

“MATRIX ADJUST” Screen

Settings in bold are factory settings

Item	Function/Variable Values
“R GAIN”	For manually adjusting the shading of the R axis of the color matrix (red and cyan). Increase value : Enhances red and cyan. Decrease value : Reduces red and cyan. {Variable Values : -3 - 0 - +3}
“R ROTATION”	For manually adjusting the color phase of the R axis of the color matrix (red and cyan). Increase value : Increases yellowishness of red color and bluishness of cyan color. Decrease value : Increases bluishness of red color and greenishness of cyan color. {Variable Values : -3 - 0 - +3}
“G GAIN”	For manually adjusting the shading of the G axis of the color matrix (green and magenta). Increase value : Enhances green and magenta. Decrease value : Reduces green and magenta. {Variable Values : -3 - 0 - +3}
“G ROTATION”	For manually adjusting the color phase of the G axis of the color matrix (green and magenta). Increase value : Increases bluishness of green color and reddishness of magenta color. Decrease value : Increases yellowishness of green color and bluishness of magenta color. {Variable Values : -3 - 0 - +3}
“B GAIN”	For manually adjusting the shading of the B axis of the color matrix (blue and yellow). Increase value : Enhances blue and yellow. Decrease value : Reduces blue and yellow. {Variable Values : -3 - 0 - +3}
“B ROTATION”	For manually adjusting the color phase of the B axis of the color matrix (blue and yellow). Increase value : Increases reddishness of blue color and greenishness of yellow color. Decrease value : Increases greenishness of blue color and reddishness of yellow color. {Variable Values : -3 - 0 - +3}
“PAGE BACK”	Press the [SET] button to return to the “PROCESS(2/2)” screen when cursor is at this position.

“CAPTURE” Screen

Settings in bold are factory settings

Item	Function/Variable Values
“MODE”	<p>For capturing images into the memory and output still images (frozen images) through the various output terminals located at the back of this unit.</p> <p>This function is for setting the freeze timing.</p> <p>“FREEZE” : Images are captured into the memory with the triggering input timing from the [TRIGGER] terminal located at the back of this unit or remote control unit.</p> <p>“RANDOM TRG”: For shooting fast moving objects with the triggering input timing from the [TRIGGER] terminal located at the back of this unit.</p> <p>Notes _____</p> <ul style="list-style-type: none"> ● Set the shutter speed under the “RANDOM SHUT.” item. ● The image is not outputted immediately after the “RANDOM TRG” is set, but until there is a triggering input.
“FREEZE TRG”	<p>Setting the output signals according to the trigger inputs.</p> <p>“ALTERNATE” : Alternating between freeze and release with every trigger input.</p> <p>“MOMENTARY” : New frozen image is output to replace the previous one with every trigger input.</p> <p>Note _____</p> <p>When “MODE” item is set to “RANDOM TRG”, it is fixed to “MOMENTARY” and “(MOMENTARY)” is displayed.</p>
“IMAGE TYPE”	<p>For setting the FREEZE mode.</p> <p>“FIELD” : Freezes a field image.</p> <p>“FRAME” : Freezes a frame image.</p> <p>Note _____</p> <p>When “MODE” item is set to “RANDOM TRG”, it is fixed to “FIELD” and “(FIELD)” is displayed.</p>
“RANDOM SHUT. ”	<p>For setting the shutter speed of random trigger.</p> <p>This setting can only be selected when “MODE” item is set to “RANDOM TRG”. {Variable Values : 1/60, 1/100, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10000}</p>
“PAGE BACK”	<p>Press the [SET] button to return to the “MENU” screen when cursor is at this position.</p>

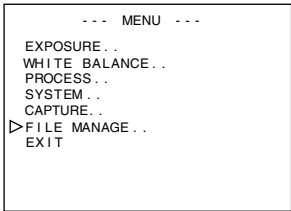
5. Setting Via the Menu Screen (continued)

"FILE MANAGE" Screen

The following can be performed on the "FILE MANAGE" screen.

- Saving menu settings in 3 types of files (A, B and C).
- Retrieving stored files (A, B and C).
- Resetting menu settings to factory settings.

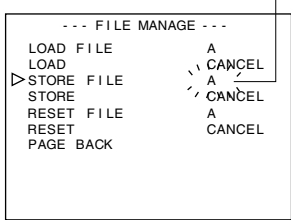
1. 2.



"MENU" Screen

1. 2.

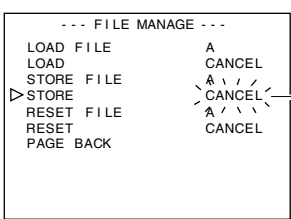
Blinking



"FILE MANAGE" Screen

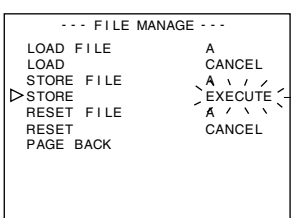
3.

Blinking



4.

Blinking



■ Display the "FILE MANAGE" screen

※ Make sure that the Switch 4 located at the side of this unit is set to [OFF] (lower side).

1. Press the [MENU] button for 1-2 seconds.
The "MENU" screen will be displayed.
2. Use the [▲/▼] buttons to select "FILE MANAGE..", then press the [SET] button.
The "FILE MANAGE" screen will be displayed.

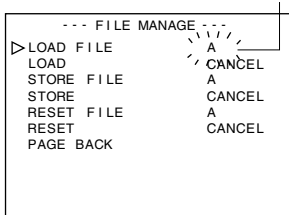
■ Save the set value

1. Use the [▲/▼] buttons to select "STORE FILE", then press the [SET] button.
The set value displayed will start to blink.
2. Use the [▲/▼] buttons to select "A", "B" and "C", then press the [SET] button.
3. Use the [▲/▼] buttons to select "STORE", then press the [SET] button.
"CANCEL" will start to blink.
4. Use the [▲/▼] buttons to select "EXECUTE", followed by pressing the [SET] button to save the menu settings in the selected file destination.
5. Press the [MENU] button for 1-2 seconds.
The normal screen will be displayed.

"FILE MANAGE" Screen (continued)

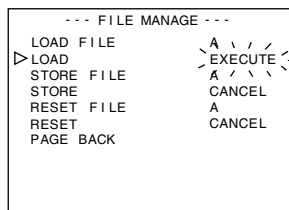
1. 2.

Blinking



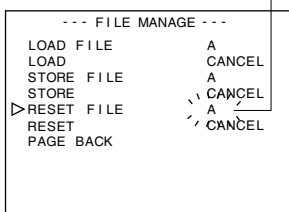
3. 4.

Blinking



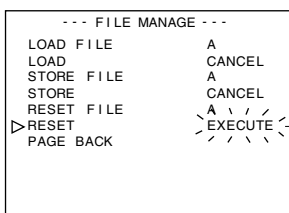
1. 2.

Blinking



3. 4.

Blinking



Retrieve file

1. Use the [▲/▼] buttons to select "LOAD FILE", then press the [SET] button.
The set value displayed will start to blink.
2. Use the [▲/▼] buttons to select "A", "B" and "C", then press the [SET] button.
3. Use the [▲/▼] buttons to select "LOAD", then press the [SET] button.
"CANCEL" will start to blink.
4. Use the [▲/▼] buttons to select "EXECUTE", followed by pressing the [SET] button to retrieve the menu settings from the selected file destination.

Reset the set value

1. Use the [▲/▼] buttons to select "RESET FILE", then press the [SET] button.
The set value displayed will start to blink.
2. Use the [▲/▼] buttons to select a file to reset, then press the [SET] button.
"A", "B", "C", "CURRENT" (Current Set Value)
3. Use the [▲/▼] buttons to select "RESET", then press the [SET] button.
"CANCEL" will start to blink.
4. Use the [▲/▼] buttons to select "EXECUTE" and press the [SET] button to reset the set value.

Note

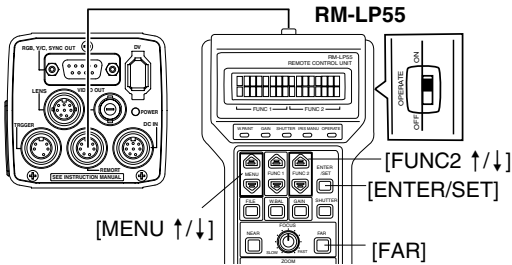
Resetting the stored files ("A", "B" and "C") will not reset the current set value.

To reset the current set value, select "CURRENT".

6. Others

Connecting the Remote Control Unit

Menu function of the camera can be set using the remote control unit (RM-LP55 AND RM-LP57). (Please refer to the instruction manual of the remote control unit for details on remote control operations.)



■ When operating the menu function of this unit from RM-LP55

- Make sure that the Switch 4 located at the side of this unit is set to [OFF] (lower side).
- Set the "CAMERA TYPE" setting no. of RM-LP55 to "3".

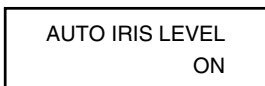
Connection

Connect cable of the remote control unit to the [REMOTE] terminal of this unit.

Operation

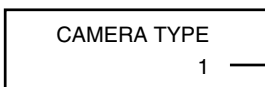
1. Press the [ENTER/SET] and [FAR] buttons at the same time when turning the [OPERATE] switch to [ON].

Display on LCD screen will be as shown in the following diagram.



2. Use the [MENU ↑/↓] buttons to display the "CAMERA TYPE" setting screen.

Display on LCD screen will be as shown in the following diagram.



Camera Type
Setting No.

3. Use the [FUNC2 ↑/↓] buttons to set the camera type setting no. to "3".
4. Pressing the [ENTER/SET] button returns to the normal mode of use after "INITIALIZE" is displayed.

Caution

- When setting the "SHUTTER" function to "SLOW", set the "GAIN" function to other than "ALC" and "ALC+EEI".
- When the function settings of RM-LP55 are as below, even if the [AW] button of this unit is pressed, "LOW LIGHT ERROR" will be displayed on the LCD screen and auto white will not be functional.
 - When the "SHUTTER" function is "SLOW".
 - When the "RANDOM TRIGGER" function is "ON".
 - When auto white shading is being activated through the camera operation.
- When the "RANDOM TRIGGER" function is set to "OFF", the camera operates in FREEZE mode.

Notes

- In the case when the menu function of this unit is identical to the remote control unit, the switch function of the local remote control will override that of this unit.
- When connected to RM-LP55, even if the "V. SCAN" under "SHUTTER" item is set to 1/60.0, the camera will operate based on 1/60.1. As such, the image level will change if the "STEP" mode under "SHUTTER" item is changed from NORMAL (1/60) to "V. SCAN".

Connecting the Remote Control Unit (continued)

■ List of Remote Control Unit Functions

Function	This unit	Operation From RM-LP55	Operation From RM-LP57
MODE	○	} ○ BARS, CAM, NEGA	○ CAM, BARS
NEGA	○		×
CONTOUR	○	○ ON (LEVEL), OFF	○ ON (LEVEL), OFF
GAMMA	○	×	×
MASTER BLACK	○	○ LEVEL	○
IRIS	○	○ AUTO (LEVEL), MANU	○ AUTO (LEVEL), MANU
IRIS DETECT	○	○ NORMAL, PEAK, AVG	×
WHITE BALANCE	○	○ AUTO1, AUTO2, FAW, MANUAL, PRESET	○ AUTO1, AUTO2, FAW
WHITE PAINT	○	○ AUTO1, AUTO2	○ AUTO1, AUTO2
GAIN	○	○ -3, 0, 6, 9, 12, 18 dB, ALC, ALC+EEI, LOLUX	○ 0, 6, 9, 12, 18 dB, ALC/ALC+EEI
SHUTTER	○	○ NORMAL, 1/100, 1/250, 1/500, 1/1000, 1/2000, V. SCAN, EEI, SLOW	○ NORMAL, 1/100, 1/250, 1/500, 1/1000, 1/2000, EEI
TITLE DISPLAY	×	×	×
TITLE DISPLAY POSITION	×	×	×
TITLE SETTING	×	×	×
DATA	×	×	×
FILE	○	○	×
ZOOM	×	○	○※1
FOCUS	×	○	○※1
HI-RESO	○※2	○	×
WHITE SHADING	○	×	×
RANDOM TRIGGER	○	○ ON/OFF(1/60, 1/100, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10000	×
SLOW SHUTTER	○	○ 1- 240 frames	×

○ ... Function available

×

※1 ... Operation is possible when connected to RM-713MD

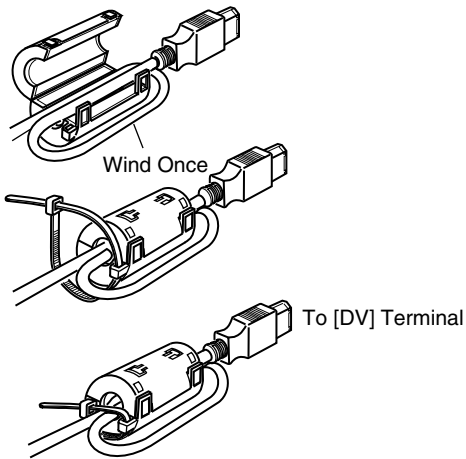
※2 ... Equivalent to V. RESOLUTION

NORMAL : HI-RESO OFF

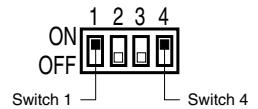
V.MAX : HI-RESO ON

6. Others (continued)

Connecting the IEEE 1394 Cable



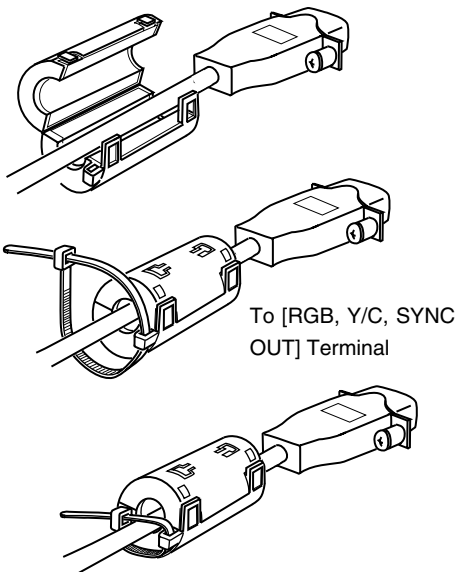
- Attach the supplied clamp filter as shown in the diagram on the left to reduce unwanted electromagnetic emission.
- Attach the clamp filter as shown in the diagram on the left to this unit as near as possible.
- Set Switch 1 and Switch 4 located at the side of this unit to [ON] (upper side).



Caution

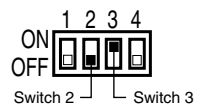
Perform these when the unit is off.

Connecting the analog output (D-SUB) Cable



- Attach the supplied clamp filter as shown in the diagram on the left to reduce unwanted electromagnetic emission.
- Attach the clamp filter as shown in the diagram on the left to this unit as near as possible.
- Set the switches located at the side of this unit.
 - Setting Switch 2
Set this switch to [ON] (upper side) for Y/C output.
Set this switch to [OFF] (lower side) for RGB output.
 - Setting Switch 3
Set this switch to [ON] (upper side) if sync signal is to be superimposed onto the Green (G) channel of the video signal.

Page 10 'Function Setting Switch'



Caution

Perform these when the unit is off.

Technical Information

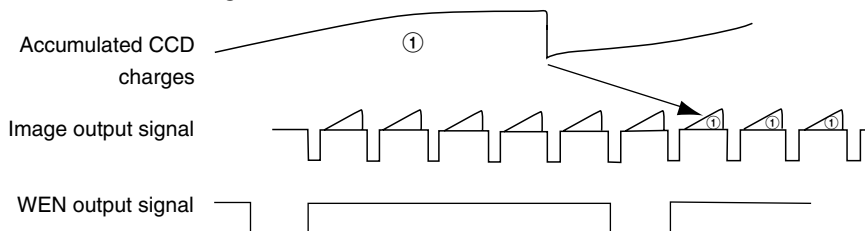
■ Slow Shutter Function

To brighten the images taken in dark places etc.

This function is not achieved through the method of increasing gain electronically. It is accomplished by accumulating charges stored in the CCD imaging device. In addition, by lengthening the duration for accumulating charges, more charges could be stored in the CCD and hence allowing high sensitivity images to be taken under low lighting condition.

The maximum accumulation timing is up till 240 frames (approx. 8 seconds).

● SLOW SHUT 3 FRM Setting



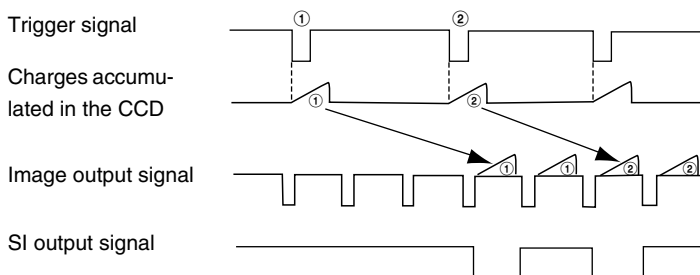
Caution

- Normal image level cannot be used under the auto iris mode. Please use the manual iris mode.
- Noise may increase when the number of frames increases, as such, set to an appropriate value.

■ Random Trigger Function

For verifying the image of a fast moving object detected.

If the trigger signal for the object detected is input, charges will start to accumulate in the CCD imaging device at the camera. The accumulated charges will be output following the next SYNC signal while simultaneously, the SI signal will be output as well, hence allowing the images to be stored in the memory.



6. Others (continued)

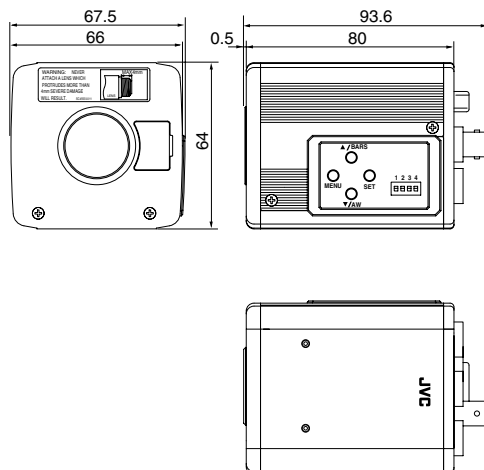
Specifications

Image Pickup Device	: 1/3" IT CCD x 3
Scan Mode	: Interlace
Effective Pixel Numbers	: 380,000 Pixels (768 (H) x 494 (V))
Lens Mount	: 1/3" C Mount
Color Separation System	: F1.4 3-color Separation Prism
Aspect Ratio	: 4:3
Horizontal Resolution	: Y: 800 lines and above, RGB: 540 lines and above
Registration	: 0.05 % (or less) of entire zone (excluding lens distortion)
Sensitivity	: F11, 2000 lx
Minimum Illumination	: less than 1 lx (F1.4, during LOLUX) (calculated value)
Output Signal	
Composite Signal	: 1 V (p-p), 75 Ω (With Color Bars)
RGB/YC signal (Selectable by switch)	
RGB Signal	: 0.7 V (p-p), 75 Ω (1 V (p-p), 75 Ω when SYNC ON G) (With Color Bars)
Y Signal	: 1 V (p-p), 75 Ω (With Color Bars)
C Signal	: Burst level 0.286 V (p-p), 75 Ω
SYNC Signal	: 2 V (p-p), 75 Ω
DV Signal	: DV Specification
※ All signal types can be superimposed on characters.	
Dynamic Range	: 400 % and above
Gain Boost	: -3/0/+3/+6/+9/+12/+15/+18 dB/ALC/LOLUX/V. GAIN
Electronic Shutter	
STEP	: 1/7.5, 1/15, 1/30, NORMAL (1/60), 1/100, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10000
V. SCAN	: Approx. 1/60 - approx. 1/10000
SLOW	: 1 - 240 frames
Frame readout	: Switchable between FIELD and FRAME
Quantization	: RGB 12 bits each
Contour Correction System	: H/V: Effective for both
Sync System	: Internal Sync
Lens Control	: Iris, Zoom, Focus (Zoom and Focus could be controlled only if T14 x 5.5MD, RM-LP55 or RM-LP57 + RM-713MD are used.)

Specifications (continued)

SYNC ON G	: During RGB output, whether to superimpose SYNC on the G signal is selectable.
DSUB Output	: RGB, Y/C (Selectable by switch)
White Balance	: AUTO1, AUTO2, FAW, MANUAL, PRESET Compliance Range: 2300 K - 10000 K
DV Terminal	: IEEE1394 6 Pin Connector (Cable with lock feature can be used)
Temperature Range During Use	: -5 °C - 40 °C (Humidity of 80 % or lower)
Transport and Storage Condition	
Temperature	: -20 °C - 60 °C
Humidity	: 85 % RH or lower
Input Supply Voltage	: DC 12 V (When using AA-P700) DC 8 V - DC 33 V (When using IEEE 1394 Cable)
Power Consumption	: 7.5 W
Dimension	: (W) 67.5 mm x (H) 64 mm x (D) 80.5 mm (Does not include connector)
Mass	: 380 g (only the unit)
Accessories and Attachments	: Power Cord (8P, 2 m) x 1 Camera Mounting Bracket x 1 Camera Mounting Bracket Fastening Screw (M2.6 x 6 mm) x 2 Clamp Filter x 2 Wire Clamp x 2 Instruction Manual x 1

Dimensional Drawing (Unit: mm)



Specifications and appearance of this unit are subject to change for further improvement without prior notice.

Memo

This image shows a full page of primary-ruled paper. It features multiple horizontal rows, each defined by two parallel dotted lines. The rows are evenly spaced across the entire page, providing a guide for handwriting practice. There are no margins, text, or other markings present.

